

COMPOSITION FOR ENHANCING CONDUCTIVITY OF A CARRIER MEDIUM AND METHOD OF USE THEREOF

Abstract of the Disclosure

5 A composition and method for enhancing the electrical and thermal conductivity. The
composition comprises a powder having average particle sizes in the nanometer to micron size
range, a coating for imparting corrosion resistance and/or acting as a dispersant, and a transfer
medium. The transfer medium is selected from the group of interpolymers, polymers, gaseous
and liquid fluids, and phase change materials. Suitable powders include metals and metal
10 oxides, alloys or blends thereof, and carbon derivatives. The surface of the powder is modified
by surface complexation or physical adsorption by a coating compound. The coated powder,
when mixed with a transfer medium, forms a colloidal dispersion which exhibits enhanced heat
transfer capacity, and electrical and thermal conductivity, stable chemical composition, faster
heat transfer rates, and dispersion maintenance which are beneficial to most thermal or electrical
15 transfer systems.